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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/598,355	06/21/2000	Cem Basceri	303.695US1	6962
21186	7590	05/19/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402-0938				NGUYEN, CUONG QUANG
ART UNIT		PAPER NUMBER		
		2811		

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/598,355	BASCERI ET AL.	
	Examiner Cuong Q. Nguyen	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-25 and 51-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 1-24 and 51-63 is/are allowed.
- 6) Claim(s) 25 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (US 6,249,040) in view of Summerfelt et al. (US 5,622,893).

Lin et al. discloses a capacitor comprising: a first electrode having a substance (Pt layer 169) (Lin et al.'s col.9 lines 38-40); a dielectric (166) having a first compound of ditantalum pentaoxide (Ta₂O₅) having a crystalline structure of substantially (001) lattice plane and a permittivity greater than 25 (Lin et al.'s col.9, lines 25-37), the first compound includes a first substance (Ta) and a second substance (oxygen); a second single electrode (165) formed of Ru. Lin et al.'s Fig.10G.

Lin et al. does not explicitly teach that the first electrode (the upper electrode of the capacitor) formed of Pd or Au and the second single conductive layer includes a second compound of RuO₂ and a trace amount of Ru.

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It is conventional and also taught by Summerfelt et al. (TABLE) that Pt, Pd and Au are art recognized materials for forming the upper electrode (40) of the capacitor and they are interchangeable.

It is conventional and also taught by Summerfelt et al. (col.3 lines 43-55) that the single layer of capacitor electrode is formed by partially or fully oxidized the Ru in order to provide a stable conductive interface to the HDC material.

It would have been obvious to one of ordinary skill in the art to form the first electrode of Pd or Au instead of Pt and to form the single conductive layer by partially oxidizing the Ru layer as taught by Summerfelt et al. because the single conductive layer being formed by both partially oxidizing Ru layer provides a stable conductive interface to the HDC material. col.3 lines 43-55

It is noted that, the second electrode in the device being formed by the combination of Lin et al. and Summerfelt et al. inherently includes a second compound (RuO₂) that includes a trace amount of third substance (ruthenium) and a substantial amount of fourth substance (oxygen).

The limitations "as-deposited state" and "the trace amount of the third substance is oxidized during the crystallization of the dielectric" in claim 25 are taken to be a product by process limitation, it is the patentability of the claimed product and not of recited process steps which must be established. Therefore, when the prior art discloses a product which reasonably appears to be identical with or only slightly different than the product claimed in a product-by process claim, a rejection based on sections 102 or 103 is fair. A product by process claim directed to the product per se, no

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matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See In re Fessman, 180 USPQ 324,326(CCPA 1974); In re Marosi et al., 218 USPQ 289,292 (Fed. Cir. 1983); and particularly In re Thorpe, 227 USPQ 964,966 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final structure of the product "gleaned" from the process steps, which must be determined in a "product by process" claim, and not the patentability of the process. See also MPEP 2113. Moreover, an old or obvious product produced by a new method is not a patentable product, whether claim in "product by process" claim or not.

Response to Arguments

2. Applicant's arguments with respect to claim 25 has been considered but are moot in view of new ground of rejection.

Allowable Subject Matter

3. Claims 1-24 and 51-63 are allowed.

Conclusion

4. Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 872-9306. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

5. Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to CUONG Q NGUYEN whose telephone number is

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(571) 272-1661. The Examiner is in the Office generally between the hours of 6:30 AM to 5:00 PM (Eastern Standard Time) Monday through Thursday.

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Eddie Lee who can be reached on (571) 272-1732.

7. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center Receptionists whose telephone number is 308-0956.



Cuong Nguyen
Primary examiner

5/11/05